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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,166	03/17/2005	Hideo Morita	267494US6PCT	2641
22850	7590	01/26/2009		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER ALLISON, ANDRAE S	
			ART UNIT 2624	PAPER NUMBER
			NOTIFICATION DATE 01/26/2009	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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jgardner@oblon.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/528,166	<b>Applicant(s)</b> MORITA, HIDEO	
	<b>Examiner</b> ANDRAE S. ALLISON	<b>Art Unit</b> 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Remarks***

1. The Office Action has been made issued in response to amendment filed October 22, 2008. Claims 1-6 are pending. Applicant's arguments have been carefully and respectfully considered in light of the instant amendment, and are not persuasive. Accordingly, this action has been made FINAL.

#### Claim Rejections – 35 USC section § 112

Applicant has amended claim 16 to overcome the objection; therefore the objection is withdrawn.

#### Claim Rejections – 35 USC section § 102 & 103

Applicant's arguments are moot in view of the new grounds of rejection.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heimburger (US Patent No.: 5,995,154) in view of Song et al (US Patent No.: 7,265,791).

As to independent claim 5, Heimburger discloses an image processing method of converting an interlaced image data to a noninterlaced image data (method for converting interlaced format image data to progressive format image data - column 1, lines 5-10), comprising: comparing pixel data of an interlaced image pixel-by-pixel between frames to perform a motion detection (see column 8, lines 10-16 – where motion estimation is performed on a frame stored in memory and a current frame); generating a history value indicating the number of times that a determination is continuously made that the interlaced image is a still image based on a result of the motion detection and interpolating by mixing pixel data ( $P_m$ ) generated by interpolation in a field and pixel data ( $P_s$ ) generated by interpolation between a plurality of fields based on pixel data of the interlaced image (see column 21, lines 63-67, column 22, lines 1-67 – where interpolations is done between multiple fields ) at a mixture ratio ( $R_{mix}$ ) (see column 3, lines 1-5) in accordance with the motion detection result ( $Dif(0)$ ) and the history value ( $H_k$ ), wherein the larger the history value ( $H_k$ ) is, the larger amount of pixel data ( $P_s$ ) generated by interpolation between fields mixes (see column 21, lines 63-67). Note the discussion above, Heimburger does not expressly disclose generating a history value indicating the number of times that a determination is continuously made that the interlaced image is a still image based on a result of the motion detection. Song discloses a method for de-interlacing video signal (see column

Art Unit: 2624

15-19) generating a history value indicating the number of times that a determination is continuously made that the interlaced image is a still image based on a result of the motion detection (see column 4, lines 16-26 – where motion index value is determined, based on a difference), wherein the larger the history value (Hk) is, the larger amount of pixel data (Ps) generated by interpolation between fields mixes (see column 4, lines 33-42). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have modified the method of Heimburger with the method for de-interlacing video signal of Song “for converting an interlaced scan format image into a progressive scan format image by performing low pass filtering on respective predetermined pixels of a current frame and a previous frame and determining pixel motion index values by comparing a threshold value to a difference value between the respective filtered pixels in a current field in one of the current and previous frames” (see abstract).

As to independent claim 1, this claim differs from claim 5 only in that claim 1 is apparatus whereas, claim 5 is method and the limitations a motion detection portion, a history value generation portions and a pixel data interpolation portion are additively recited Heimburger clearly discloses an apparatus (see Fig 1) comprising: limitations a motion detection portion (5 - see Fig 1), a history value generation portions (5 - see Fig 1) and a pixel data interpolation portion (4, see Fig 1).

As to claim 3, Heimburger teaches the image processing apparatus, wherein said history value generation portions (52, 53) generates a history value ( $H_k(+2F)$ ) for interpolation of an adjacent pixel in a field delayed by one field from a field where a pixel data to be generated by the interpolation and updates with respect to each interpolation (see column 23, lines 37-42).

As to claim 4, Heimburger teaches the image processing apparatus, wherein said history value generation portions (52, 53) generates a history value ( $H_k(+F)$ ) for an interpolation of an adjacent pixel in a field differing from a field where a pixel data to be generated by the interpolation, generates a history value ( $H_k(+2F)$ ) for an interpolation of an adjacent pixel in the same field where a pixel data to be generated by the interpolation, and updates respectively with respect to each interpolation column 21, lines 63-67, column 22, lines 1-67.

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***Allowable Subject Matter***

4. Claim 2 and 6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Inquires***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDRAE S. ALLISON whose telephone number is (571)270-1052. The examiner can normally be reached on Monday-Friday, 8:00 am - 5:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrae Allison

January 6, 2008

/Jingge Wu/

Supervisory Patent Examiner, Art Unit 2624